AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended) ~~High~~A high-speed, permanent-magnet rotor~~, in particular permanent-magnet rotor~~ (1) for dynamoelectric machines of high power density, comprising at least one spindle (2)~~, and~~ a cylindrical sheath (4) coaxial with the spindle (2), and ~~also a number of bodies~~a plurality of permanent magnets (3a to 3c) ~~that are~~ distributed between the spindle (2) and the cylindrical armouring sheath (4), characterized in that the spindle (2) has on its cylindrical circumference at least one spindle shoulder (2g, 2h), at least one annular channel (2i) for receiving the permanent magnets (3a to 3c), and at least one recess (2j), and the cylindrical armouring sheath (4a, 4b) consists of a synthetic-resin impregnated, filament-wounded fibers, wherein all cavity parts of the rotor (1) are filled through a connecting channel (2m) that is located co-centric with the spindle axis, radial supply channels (2k) that branch from the connecting channel (2m), and the at least one recess (2j) using a high-pressure~~a cavity-filling~~, compressed and cured filling compound ~~is~~ used for ~~the~~ pretensioned sealing and rigid joining of ~~said parts (1,2,3,4)~~the permanent magnets (3a to 3c), inserts (5a to 5d) which segment the permanent magnets (3a to 3c) from one another, and the inner surface of the armouring sheath (4a, 4b).

Claim 2 (currently amended) ~~High~~ The high-speed rotor according to Claim 1, characterized in that the spindle (2) has at least one spindle shoulder (2g, 2h) ~~and/or~~and at least one spindle nut (2x), and the at least one annular channel (2i) ~~that~~ lies between the spindle shoulder (2g, 2h) ~~and/or~~and the spindle nut (2x)~~, and also at least one supply channel (2m) for feeding the filling compound~~.

Claim 3 (currently amended) ~~High~~The high-speed rotor according to Claim 2, characterized in that the supply channel (2m) of the spindle (2) is connected to ~~preferably symmetrically distributed~~ the radial supply channels (2k) in a symmetrical manner and to the at least one recess (2j) of the spindle (2).

Claim 4 (currently amended) ~~High~~A high-speed, permanent-magnet rotor (1) for dynamoelectric machines of high power density, comprising at least one spindle (2), a cylindrical sheath (4) coaxial with the spindle (2), and a plurality of permanent magnets (3) distributed between the spindle (2)

and the cylindrical sheath (4), characterized in that a cavity-filling, compressed and cured filling compound is used for the pretensioned sealing and rigid joining of the rotor, spindle, magnets, and sheath (1,2,3,4)~~according to Claim 2~~, the spindle (2) has spindle shoulders (2g, 2h) and at least one supply channel (2m) for feeding the filling compound, and~~characterized in that~~ there lies between the spindle ~~shoulder~~ shoulders (2g, 2h) ~~and/or spindle nut (2x)~~ an annular channel (2i) that ~~is used to receive~~receives the permanent magnets (3, 3a to 3c), and ~~in that~~ inserts (5a to 5d) made of electrically ~~and magnetically neutral~~non-conductive materials are used for the segmented positioning of the permanent magnets (3a to 3c).

Claim 5 (currently amended) ~~High~~ The high-speed rotor according to Claim ~~2~~1, characterized in that cylindrical shell-type armouring (4a) is situated on the spindle shoulders (2g, 2h).

Claim 6 (currently amended) ~~High~~ A high-speed, permanent-magnet rotor (1) for dynamoelectric machines of high power density, comprising at least one spindle (2), a cylindrical sheath (4) coaxial with the spindle (2), and a number of bodies (3) that are distributed between the spindle (2) and the cylindrical sheath (4), characterized in that a cavity-filling, compressed and cured filling compound is used for the pretensioned sealing and rigid joining of the rotor, spindle, magnets, and sheath (1,2,3,4), the spindle (2) has at least one spindle shoulder (2g, 2h) and at least one spindle nut (2x), at least one annular channel (2i) lies between the spindle shoulder (2g, 2h) and the spindle nut (2x), and at least one supply channel (2m) for feeding the filling compound~~according to Claim2~~, wherein ~~characterized in that~~ the cylindrical shell-type armouring (4b) is clamped between ~~two spindle nuts (2x) or a~~the spindle shoulder (2g) and ~~a~~ the spindle nut (2x),

Claim 7 (currently amended) ~~High~~The high-speed rotor according to Claim 6 characterized in that externally and internally ~~centring~~ centering washer rings (7a, 7b)~~, preferably~~ having spacing knobs (8) ~~are used to~~ seal the points of contact of the spindle (2, 2g, 2h, x) and the armouring (4a, 4b).

Claim 8 (currently amended) ~~High~~ The high-speed rotor according to Claim 6, characterized in that a cuff strengthened with sheet metal and having sealing lips made of natural or synthetic rubber (9) ~~is used to seal~~seals the points of contact of the spindle (2, 2g, 2h, 2x) and the armouring (4a, 4b).

Claim 9 (currently amended) ~~Method~~ A method of producing a high -speed rotor according to Claim 6, characterized in that the rotor (1) is placed in a ~~centring~~ centering ring (6) ~~preferably~~ guided by the rotor spindle (2) to limit the asymmetrical expansion of the armouring (4a, 4b).

Claim 10 (currently amended) ~~Method~~ A method of producing a high-speed rotor according to Claim 1, characterized in that the rotor (1) is thermally treated in places.

Claim 11 (canceled)

Claim 12 (currently amended) ~~High~~The high-speed rotor according to Claim 1, characterized in that the supply channel (2m) of the spindle (2) is connected to ~~preferably~~ the supply channels (2k), which are symmetrically distributed, ~~supply channels (2k)~~ and to the at least one recess (2j) of the spindle (2).

Claim 13 (currently amended): ~~High~~A high-speed, permanent-magnet rotor (1) for dynamoelectric machines of high power density, comprising at least one spindle (2), a cylindrical sheath (4) coaxial with the spindle (2), and a plurality of permanent magnets (3) that are distributed between the spindle (2) and the cylindrical sheath (4), characterized in that a cavity-filling, compressed and cured filling compound is used for the pretensioned sealing and rigid joining of the rotor, spindle, magnets, and sheath (1,2,3,4), the spindle (2) has at least one spindle shoulder (2g, 2h) and at least one spindle nut (2x), the supply channel (2m) of the spindle (2) is connected to symmetrically distributed supply channels (2k) and to at least one recess (2j) of the spindle (2)~~according to Claim 12~~, ~~characterized in that~~ there lies between the spindle shoulder (2g, 2h) and the ~~/or~~ spindle nut (2x) an annular channel (2i) that is used to receive the permanent magnets (3, 3a to 3c), and ~~in that~~

inserts (5a to 5d) made of electrically ~~and magnetically neutral~~non-conductive materials are used for the segmented positioning of the permanent magnets (3a to 3c).

Claim 14 (currently amended): ~~High~~A high-speed, permanent-magnet rotor (1) for dynamoelectric machines of high power density, comprising at least one spindle (2),d a cylindrical sheath (4) coaxial with the spindle (2), and a plurality of permanent magnets (3) that are distributed between the spindle (2) and the cylindrical sheath (4), characterized in that a cavity-filling, compressed and cured filling compound is used for the pretensioned sealing and rigid joining of the rotor, spindle, magnets, and sheath (1,2,3,4)~~according to Claim 3~~, the spindle (2) has at least one spindle shoulder (2g, 2h) and at least one spindle nut (2x), and at least one supply channel (2m) for feeding the filling compound is connected to symmetrically distributed supply channels (2k) and to at least one recess (2j) of the spindle (2), ~~characterized in that~~ there lies between the spindle shoulder (2g, 2h) and~~/or~~ the spindle nut (2x) an annular channel (2i) that is used to receive the permanent magnets (3a to 3c), and ~~in that~~ inserts (5a to 5d) made of electrically ~~and magnetically neutral~~non-conductive materials are used for the segmented positioning of the permanent magnets (3a to 3c).

Claim 15 (currently amended) ~~High~~ The high-speed rotor according to Claim 4, characterized in that cylindrical shell-type armouring (4a) is situated on the spindle shoulders (2g, 2h).

Claim 16 (currently amended) ~~High~~ The high-speed rotor according to Claim 3, characterized in that cylindrical shell-type armouring (4a) is situated on the spindle shoulders (2g, 2h).

Claim 17 (currently amended) ~~High~~ The high-speed rotor according to Claim 42, characterized in that the cylindrical shell-type armouring (4b) is clamped between ~~two spindle nuts (2x) or a~~the spindle shoulder (2g) and ~~a~~ the spindle nut (2x)

Claim 18 (currently amended) ~~High~~ A high-speed, permanent-magnet rotor (1) for dynamoelectric machines of high power density, comprising at least one spindle (2), a cylindrical sheath (4) coaxial with the spindle (2), and a plurality of permanent magnets (3) that are distributed

between the spindle (2) and the cylindrical sheath (4), characterized in that a cavity-filling, compressed and cured filling compound is used for the pretensioned sealing and rigid joining of the rotor, spindle, magnets, and sheath (1,2,3,4), the spindle (2) has at least one spindle shoulder (2g, 2h), at least one spindle nut (2x), at least one annular channel (2i) that lies between the spindle shoulder (2g, 2h) and the spindle nut (2x), and at least one supply channel (2m) for feeding the filling compound, the supply channel (2m) of the spindle (2) is connected to symmetrically distributed supply channels (2k) and to at least one recess (2j) of the spindle (2), and~~according to Claim 3, characterized in that~~ the cylindrical shell-type armouring (4b) is clamped between ~~two spindle nuts (2x) or a~~the spindle shoulder (2g) and ~~a~~the spindle nut (2x).

Claim 19 (currently amended) ~~High~~A high-speed, permanent-magnet rotor (1) for dynamoelectric machines of high power density, comprising at least one spindle (2), a cylindrical sheath (4) coaxial with the spindle (2), and a plurality of permanent magnets (3) distributed between the spindle (2) and the cylindrical sheath (4), characterized in that a cavity-filling, compressed and cured filling compound is used for the pretensioned sealing and rigid joining of the rotor, spindle, magnets, and sheath (1,2,3,4), the spindle (2) has spindle shoulders (2g, 2h), at least one annular channel (2i) that lies between the spindle shoulders (2g, 2h), and at least one supply channel (2m) for feeding the filling compound, cylindrical sheath (4a) is situated on the spindle shoulders (2g, 2h), and~~according to Claim 5 characterized in that~~ externally and internally ~~centring~~ centering washer rings (7a, 7b)~~, preferably having~~have spacing knobs (8) ~~are~~ used to seal the points of contact of the spindle (2, 2g, 2h, x) and the armouring (4a, 4b).

Claim 20 (currently amended) ~~High~~ A high-speed, permanent-magnet rotor (1) for dynamoelectric machines of high power density, comprising at least one spindle (2), a cylindrical sheath (4) coaxial with the spindle (2), and a plurality of permanent magnets (3) distributed between the spindle (2) and the cylindrical sheath (4), characterized in that a cavity-filling, compressed and cured filling compound is used for the pretensioned sealing and rigid joining of the rotor, spindle, magnets, and sheath (1,2,3,4)~~according to Claim 5~~, the spindle (2) has spindle shoulders (2g, 2h), at least one annular channel (2i) that lies between the spindle shoulders (2g, 2h), and at least one

supply channel (2m) for feeding the filling compound, the cylindrical sheath (4a) is situated on the spindle shoulders (2g, 2h), and ~~characterized in that~~ a cuff strengthened with sheet metal and having sealing lips made of natural or synthetic rubber (9) is used to seal the points of contact of the spindle (2, 2g, 2h, 2x) and the ~~armouring~~ cylindrical sheath (4a, 4b).

Claim 21 (currently amended) ~~Method~~ A method of producing a high--speed rotor according to Claim 8, characterized in that the rotor (1) is placed in a ~~centring~~ centering ring (6) ~~preferably~~ guided by the rotor spindle (2) to limit the asymmetrical expansion of the armouring (4a, 4b).

Claim 22 (currently amended) ~~Method~~ A method of producing a high--speed rotor according to Claim 7, characterized in that the rotor (1) is placed in a ~~centring~~ centering ring (6) ~~preferably~~ guided by the rotor spindle (2) to limit the asymmetrical expansion of the armouring (4a, 4b).

Claim 23 (currently amended) ~~Method~~ A method of producing a high-speed rotor according to Claim 6, characterized in that the rotor (1) is placed in a ~~centring~~ centering ring (6) ~~preferably~~ guided by the rotor spindle (2) to limit the asymmetrical expansion of the armouring (4a, 4b).

Claim 24 (new) The high-speed rotor according to Claim 1, wherein the synthetic-resin impregnated, filament-wounded fibers are carbon fibers.

Claim 25 (new) The high-speed rotor according to Claim 1, wherein the synthetic-resin impregnated, filament-wounded fibers are aramid fibers.

Claim 26 (new) The high-speed rotor according to Claim 1, wherein the synthetic-resin impregnated, filament-wounded fibers are glass fibers.